2. An explanation of how acquired technologies will be integrated into the curriculum to enhance teaching, training and student achievement

CURRICULUM

The state of Michigan is a national leader in the development of elementary/secondary curriculum standards, which describe essential learning for all students. As part of the national standards movement, the Michigan State Board of Education is required to develop standards for a core academic curriculum (including math, science, reading, history, geography, economics, American government and writing).

Associated with the core academic subjects are "model" core curriculum areas including art, career and employability skills, health education, life management, physical education, and technology. A specific set of standards has been developed for *Instructional Technology Across the Curriculum*. This document can be accessed on the Web at: http://cdp.mde.state.mi.us/ITAC. The National Standards are located at: http://cnet.iste.org.

Technology standards specifying what students must know and be able to do, as they progress through stages of schooling, are important in fostering their development; and these standards are valuable to our society at large for students, educators, parents, policy-makers, employers, and providers of goods and services.

Describe how your district will address instructional technology integration across the curriculum:

Quality Indicators for Curriculum Development and Technology

- The design of the curriculum is driven by the goals and performance indicators for student learning in technology that have been defined by the school. The MDE Curriculum Framework will serve as a guide to this process.
- The design of the curriculum takes into account the learning needs and interests of the students.
- The curriculum is clearly articulated and supports a shared vision for student learning.
- The school is committed to the on-going evaluation and renewal of the curriculum.
- The advantages of integrating applications of technology in teaching strategies and learning activities empower teachers to provide students with learning experiences that would be impossible or difficult to achieve without technology resources.
- Effective instructional strategies and learning activities are employed to help students understand and apply technology.
- Information technology resources are employed to expand to and strengthen the system of assessing student learning.
- High quality assessments are employed to evaluate students' achievement of the essential knowledge and skills they need to achieve in technology.

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The district technology plan addresses the integration of technology into the existing curriculum. Each annual curriculum revision will include a technology section addressing new hardware and software to be purchased and how it will be used to enhance student learning. The district curriculum coordinator and/or director of technology will provide direction for teachers in developing a plan that includes technology appropriate to the curriculum.

- Each teacher will have classroom computers to use as instructional aids, to access information via CD-ROM/DVD titles, the library, the Internet, and various classroom and network based software packages.

- Basic keyboarding and computer skills will be taught in early elementary. Technology education will become a normal part of the everyday curriculum.

- Integrated K-5 learning software will be used in the elementary school.

- Technology curriculum will strive to meet NETS standards for students.

- Integrated learning software will be evaluated and implemented for the middle school and high school.

- Software based assessment tools will be evaluated and implemented for the middle school.

- The K-12 technology curriculum will be reviewed and implemented as needed.

- Students will use technology for the following purposes:

    - to conduct individual research and acquire information via journals, encyclopedias, Internet, etc.

    - to improve skills in core curricular areas through direct instruction and reinforcement of skills taught by the teacher

    - to prepare for standardized tests (MEAP, Stanford, ACT, PSAT, SAT, etc.)

    - to write papers and complete homework assignments

    - to learn basic keyboarding skills and usage of general-purpose software packages such as word processors, databases, spreadsheets and communications packages

    - to communicate with teachers, classmates, other students in the school and students from other schools and countries

    - to design and/or create new ideas, concepts, projects, products, etc
    - to organize course work and learning tasks
    - to access online learning opportunities in advanced subject areas

- School employees will use technology to keep attendance, grade records and demographic data on students in the district.
- Teachers will use technology to communicate with students and parents, as a tool in curriculum instruction and as a vehicle to receive professional development.
- Specialized instruction will use technology to help students overcome deficiencies that could result in non-graduation.
- Technology will be used to help challenge advanced students achieve their greatest potential.
- Curriculum will be designed to leverage available technologies to meet the learning needs of students.
- Staff Professional Development Plans will address the needs of specialized training on the use of technology in specific curricular areas and the integration of technology into the curriculum.
- Email accounts will be made available to all students as needed for school assignments.

3. The plan provides an explanation of how programs will be developed in collaboration with others including adult literacy service providers to maximize the use of technologies. (This is intended to address community access to and benefit from the acquisition of technology)

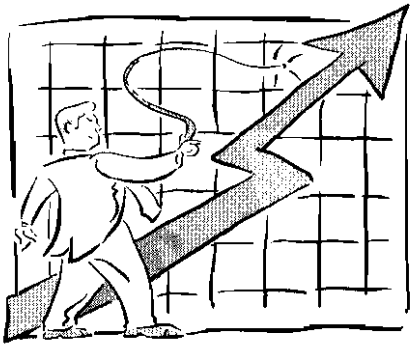
One of the many trends in education today is the increasing reliance on technology as a teaching and management tool. Computers and improved telecommunications have created new and unique opportunities for teaching and learning. We know that technology will help assure equity of access for learners as it becomes easier to match tools to the unique learning needs of students.

As important, technology can enhance the operation of schools and offer more choices to students. Technology has turned out to be a major focus for educational service agencies across the state and nation. Collaboration with other service providers, business and industry are important in order to enrich technology resources in our schools and enhance learning for all.

COMMUNITY COMPUTER ACCESS:

- Community computer classes will be offered on basic computer literacy, word processing, Internet use, spreadsheets and other areas as requested.
- A survey of local businesses will be periodically conducted to determine the desire for computer classes directed toward business needs.
- The school district will continue to communicate with the community regarding technology usage through Homelink articles, the Van Buren Advertiser, the school web page and technology events at school functions.

4. A description of ongoing, sustained professional development for teachers, administrators and school library media personnel to further the use of technology in the classroom or library media centers



Schools have a great need for technology-related staff development opportunities. Currently a wide variety of skill levels exist related to the application of technology in the classroom. We need to close the gap between the highly skilled and the under skilled technology users.

Common goals of a professional development plan include:

- improving student achievement
- improving staff and student competence with technology
- implementing technology tools into new and existing curriculum and instruction
- improved technology planning within schools
- creating pilots and model projects for utilization of technology in learning
- creating a learning community with respect to technology and education
- enabling students to become quality users of technology

Staff development is necessary to assist teaching staff in making the paradigm shifts required to enable technology to best support instruction. Teachers often will use technology in a fashion which is consistent with prior teaching practices. Many times this produces a misapplication of technology to teaching and learning. For example, "high tech" worksheets and multiple-choice assessments are not the most effective use of web technology. It takes time and experience for teachers to learn to "think outside the box" when it comes to incorporating technology in teaching. Therefore, we must provide a variety of technology related staff development opportunities that focus on effective applications of technology in innovative ways. These opportunities need to be offered at times that are convenient to teaching staffs and at locations that are suitable for course offerings.

Outline your professional development plan:

- involve participants in planning professional development
- assess needs and assure a sound planning process
- garner commitment and support from staff and district leadership
- plan for adequate time and resources
- provide continuity of programs over time
- provide clear expectations for program participants
- provide a conducive environment for learning
- use adult learning principles
- provide flexible scheduling and options for participants
- provide effective trainers/presenters

- use effective follow-up strategies
- use sound evaluation procedures

Quality Indicators for Professional Development

- The objectives of the professional development programs in information technology that are made available to administrators, teachers and staff members are consistent with the district's vision and are designed to help them advance goals for student learning in technology.

- Information technology resources are effectively employed to support the design and delivery of professional development programs and follow-up assistance for teachers and staff.

- The district's planning process for professional development in technology provides adequate support for the initiation, implementation and the institutionalization phases of effective staff development programs.

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OUR PROFESSIONAL DEVELOPMENT PLAN:

With the addition of computers and other technologies into our schools we have created an enormous need for technology related staff development. We believe that high quality technology professional development is essential to the successful implementation of our technology program. Currently a wide variety of skill levels exist not only in the basic usage of technology but also with the effective application of technology in the classroom. We need to strive to advance all staff members in their ability to use technology.

All staff members (teachers, administrators, and support staff) will be afforded the opportunity to participate in workshops and seminars designed to produce technology literacy. Each staff member will have an Individualized Learning Plan that specifies the type and depth of training needed for the grades and subjects taught by the staff member.

- increase knowledge and abilities in using technology and strive to meet the NETS standards for technology literacy for all staff members

- conduct assisted surveys and develop individualized learning plans to identify and address areas of focus

- continue small group training sessions in the elementary and implement them in the middle/high school
  Small group sessions will focus on specific areas of interest and need. All teaching staff will receive a minimum of 12 hours of small group technology training each year.

- continue mini training sessions before and after school in the elementary and offer similar sessions in the middle/high school
  These sessions will be offered for a variety of topics such as using the digital camera, scanning a document, etc.

- participation by the middle/high school during the summer 2001 Ameritech Technology Academy

- dedicate at least two of the scheduled professional development days to technology professional development each school year

- require professional development in the area of curriculum integration for all teaching staff

- provide hands on professional development to create technology integrated lessons and projects

- focus professional development on individual subject areas and grade level training

- continue offering technology training through KRESA and VBISD. Opportunities may also be offered through Michigan Virtual University, Michigan State extensions and other online sources

- create a budget that will facilitate a high quality professional development program

5. Sources of ongoing training and technical assistance available to schools, teachers and administrators served by the district

TECHNICAL SUPPORT

Time and costs required to maintain a PC over its useful lifetime (approximately three years) are underestimated by most people and organizations. According to the Gardner Group in a paper published by the Digital Corporation, the cost of maintaining a computer in the business environment over its three year cycle is around $ 13,000 plus per year. The article further reveals that this cost is broken down on average to 21% for the cost of the PC, 36% to administer to it, and 43% for employee time spent maintaining, upgrading, and "tinkering" with it.

Furthermore, when viewing the technical support issue from a district perspective, it becomes clear that a coordinated, organized approach will be necessary as we implement voice-video-data computer networks and deal with issues such as security and maintenance.

In response to this need, what is your district's plan for addressing technical issues?

HOW MUCH TECH SUPPORT DOES A SCHOOL DISTRICT NEED?

One of the biggest challenges school districts face is determining the level of tech support they need to adequately manage their computers and networks – and how much they can afford. Of course, from a Total Cost of Ownership perspective, if a school district does not provide adequate tech support, the district will pay the price somewhere: in a reduction of teacher productivity when teachers have to solve their own computer problems, in need for additional staff training when teachers decide they can't rely on the network to be up, in the cost of wasted time and labor when administrative functions can't be managed reliably on the district's network.

From 1983-1991, IBM Corp. and Digital Equipment Corp. worked with the Massachusetts Institute of Technology to develop a formula for calculating the number of staff needed to support a distributed computing environment. This effort, know as Project Athena, came up with a formula for determining the number of required support personal.

The formula, however, did not include factors for supporting networks, phone systems or for providing curriculum support.

Recently, educators in Michigan have been working to update the formula as part of the activities of the Michigan Technology Training Resource. The latest draft version of the formula is:

> Staff members=(Number of workstations and peripherals/500) + (Number of users/1,000) + (Number of teachers/150) + (Number of major LANS, servers, databases, etc./5) + (Number of applications supported/100) + (Number of staff required to handle telephone, web site content, video, satellite, broadcast, and other non-computer technologies) + (Number of management, administrative and administrative support staff)

If we fill in the numbers we get the following:

Staff members = (600/500) + (500/1,000) + (60/150) + (10/5) + (100/100) + 1 + 1
Staff members = 1.2 + 0.5 + 0.4 + 2 + 1 + 1

Staff members = 6.1

This number could be adjusted up or down depending on various environmental and logistical factors such as high or low tech school, location of buildings, age of equipment, etc.

SOURCES OF TECHNICAL SUPPORT:

The district director of technology coordinates all technical support services. Currently we are using many creative methods for meeting technical support needs, such as:

- Student technology program provides basic help desk needs for the district. In exchange for class credit and real world experience, students provide technical assistance over the phone and through on site visits. These students also work on projects designed to improve our technology infrastructure and work with individual teachers and classrooms as needed.

- Elementary school lab manager handles routine day-to-day tasks in the elementary computer lab. This lab manager also supports several of the networked software applications used in the elementary lab and supplies some technical support to elementary school teachers and students.

- Middle/high school lab manager handles routine day-to-day tasks in the middle/high school lab and the keyboarding lab. This lab manager also administers our Internet filter, user accounts, disk storage quotas and supplies some technical support to middle/high school teachers and students.

- Karla Koviak, an elementary teacher, provides some technical and application support to teachers in the elementary school.

- Anita Ludwig, a middle/high school office clerk, provides some web page support for our school web page.

- Chris Webb is currently employed to provide technical support for 19 hours a week He helped manage the Windows 2000 upgrade, manages our virus protection system, provides web page support and provides general technical support.

- Several teachers on the technology committee receive release time to plan and conduct staff professional development in technology.

- Software and hardware vendors supply a limited amount of support for their respective products.

RECOMMENDATIONS FOR ADDITIONAL STAFFING

Although the above-mentioned support resources have worked to some extent, there are still many deficiencies in our support system. The following two positions would greatly enhance the technical support services and capabilities of the school district.

Full time technician – Duties would include assisting student technical support activities and providing advanced technical support services.

Half time web developer – Duties would include providing day-to-day web page maintenance and developing advanced web and messaging applications.

The addition of these dedicated positions would greatly enhance technical support services and would also provide the following benefits:

- The Director of Technology would be able to closer maintain the work hours defined in his contract.
- Currently many issues are patched and not correctly resolved due to the lack of time to fully research the issue.
- Preventative maintenance procedures would be conducted in a timelier manner. Many procedures are currently not conducted at all.
- Much needed documentation would be developed.
- More attention would be devoted to staff development.
- More attention would be devoted to integration of technology into the curriculum.
- More personalized help in the classroom would be provided.
- We would be better able to develop and maintain web pages.
- We would be better able to develop and maintain electronic messaging.
- We would be able to more effectively disseminate information throughout the district with emails and newsletters.
- We would be able to spend more time locating and evaluating educational software and Internet activities.
- Valuable networking could take place with neighboring school districts and the ISD.

Quality Indicators for Technical Support

- The school's information technology resources are continuously updated:
  - Technology resources and materials are reviewed annually for currency and for value to the curriculum in supporting student learning. Those resources or materials that no longer support the goals of the instructional program are withdrawn.
  - Hardware is reviewed for possible replacement within at least five (5) years of purchase and annually thereafter.
- Equipment receives regular inspection and routine maintenance on at least an annual basis.
  - Properly trained technical personnel are hired or contracted to perform maintenance and repair.
  - Emergency repairs are made promptly.
  - Records adequately document repair and maintenance of equipment.
- A comprehensive security system is in place to safeguard the school's information technology resources.
- The school maintains an up-to-date inventory of its information technology resources.
  - The school's inventory includes software, hardware, printed information and resource materials.
  - All materials and equipment are classified, cataloged and processed at the time of their acquisition.
  - All materials and equipment are marked and documented.
  - An electronic database serves as the management system of the inventory of the school's information technology resources.
- The roles and responsibilities for the management and coordination of the use of information technology resources throughout the school are clearly defined.
- The school's insurance policy provides adequate coverage for materials and liability.

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SUPPORTING RESOURCES

6. Description of the supporting resources, such as services, software and print resources, which will be acquired to ensure successful and effective use of technologies that are acquired

SUPPORTING RESOURCES

Describe your district's commitment to provide resources to support teaching and learning with technology:

Quality Principles for Supporting Resources

Information resources	The district's accessibility, loan and use policies facilitate the use of the district's information technology resources by students, faculty, staff, administrators and the community.
Human resources	The deployment of human resources advances the school's vision for technology and student's achievement of the goals and expectations for their learning.
Time as a resource	Through the effective use of technology, time becomes a resource for supporting student learning and enhancing the productivity of the school, rather than a constraint limiting students' opportunity to learn.
Policies as a resource	The policies for selecting software, hardware and related information technology resources are consistent with the district's vision for technology and the desired results for student learning.

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The school district understands the need for technology resources support. Technical resource support for the network will be provided for in a number of ways as outlined below:

- The district will employ sufficient technology support staff to assist with software and hardware support and training issues.
- The district will maintain subscriptions to various technology magazines and journals as deemed appropriate at the time.
- The district will provide filtered Internet access to all computers connected to the network.
- The district will maintain appropriate technical support contracts with hardware and software providers as needed.
- The district will maintain relationships with outside vendors to continue with software and hardware support as required.
- The district will provide ongoing support through in-service training, seminars, and off-site workshops.
- Individual Staff Professional Development Plans will provide necessary training so that staff members will be able to effectively use the technology.
- The District Technology Committee will serve as the primary planning and review body for the District Technology Plan.
- The Gobles Public Schools web page will be developed and maintained as a resource for teachers, students and community members.
- A Gobles Links page containing links to a variety of educational web sites will be maintained. Links will also be maintained for specific classes as requested.
- Software will be purchased and maintained for all curricular areas as needed.
- Printer ink and toner cartridges will be provided for all classroom printers.
- Paraprofessional Lab managers will be provided in the elementary and middle/high school to support student activities.
- The district media specialist will provide various support activities as needed.
- The student technology program will provide specialized classroom support as requested. *This could be web site research, web page development, special instruction, etc.*

7. The plan reflects the projected timetable for implementing the strategic long-range plan in schools

The five-year plan, as outlined below, also includes yearly reviews and adjustments to the technology plan. The District Technology Committee will continue to meet on a periodic basis to monitor technology issues in the district.

FIVE-YEAR PLAN

Year 1

- Expand web site offerings
- Provide proper technical support system
- Make more reliable printing available to teachers
- Increase Internet bandwidth to full T1
- Continue acquiring additional software for individual curricular areas
- Start implementation of an integrated learning system in the middle school
- Add a second computer lab to the elementary
- Continue community computer education classes
- Continue staff development program
- Replace outdated technology
- Explore various web based learning opportunities

Year 2

- Install video origination equipment in elementary
- Install 8 new data monitor/VCR's in middle/high school
- Investigate the use of network capable copy machines
- Monitor integrated learning system in middle school
- Start implementing web based learning if appropriate
- Continue acquiring additional software for individual curricular areas
- Continue community computer education classes
- Continue expanding web site offerings
- Continue staff development program
- Replace outdated technology

Year 3

- Investigate the implementation of a distance learning system
- Install 8 new data monitors/VCR's in middle/high school
- Install video origination equipment in middle/high school
- Start implementing network capable copy machines if appropriate
- Continue community computer education classes

- Continue expanding web site offerings
- Continue staff development program
- Replace outdated technology

Year 4

- Install 8 new data monitors/VCR's in middle/high school
- Look at building full function computer labs with next building project
- Continue community computer education classes
- Continue expanding web site offerings
- Expand computer course curriculum
- Continue staff development program
- Replace outdated technology

Year 5

- Continue expansion of computer course curriculum
- Continue community computer education classes
- Continue expanding web site offerings
- Continue staff development program
- Replace outdated technology

Projected cost

8. Projected total cost of technologies to be acquired and related expenses needed to implement the strategic long-range plan

[illegible] BUDGET - PROJECTED [illegible]

The primary start up costs for technology has already been realized from the 1998/99 technology bond issue. A network infrastructure was developed and installed, computers were purchased and installed and other peripherals were installed. This technology plan addresses finalizing some of the initial purchases, some additional new technologies and the maintenance and upgrading of the existing network.

The budget items outlined below are divided into three areas; staffing, new purchases and upgrading and maintenance. Because of the difficulty in determining the costs of some items an estimated budget cost may be used or in some cases TBD is listed. TBD (To Be Determined) means the cost will be determined when additional planning is completed for the implementation of that item.

Staffing

[1]Director of Technology	$45,000 + Benefits
[1]Elementary Lab Manager	$8,000 + Benefits
[1]Middle/High School Manager	$8,000 + Benefits
Technical Support	$25,200
Web Developer (½ time)	$10,080
Student help	$3,200

New Purchases

[2]Increased Internet Bandwidth	$2,400
Replacement Printers	$10,000
Large Screen Data Monitors and VCR's	$40,000
Channel Origination (both buildings)	$30,000
Mobil Computer Lab (elementary lab)	$32,000
Software Purchases	$50,000
Distance Learning Lab	TBD

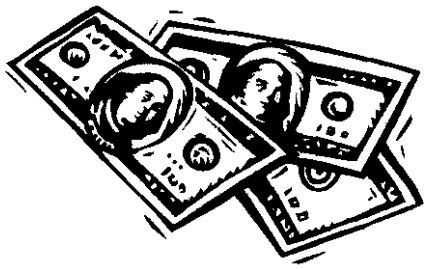
Upgrade/Maintenance

Computers	$150,000
Printers, Servers and other Peripherals	$10,000
[1]Ink/Toner	$6,000
[2]Service Contracts	$20,000
[2]Concept Investigation	$10,000
[2]Server Room Maintenance	$10,000
[2]Internet Access	$4,600
[2]Staff Development	$$$
Software	$$$
Cleaning	$$$

[1] Line item in current budget

[2] Covered indirectly in current budget

9. A description of how the district will coordinate available state and local grant resources to implement the strategic long-range plan



A creative approach beyond traditional funding sources may open many doors. Outside of a school district's operating budget, money to purchase advanced technology is available from two sources:

- Public funds - federal, state and local money
- Private funds - grants and donations from corporations, foundations, and individuals

1.Describe how your district leverages funding from a variety of sources to support the implementation of this plan. Those sources could include the general fund, internal budgets, consortium fees, grants, the Universal Service Fund, other.

For technology budgets in today's schools, we must consider items like the following:

- initial and replacement costs of equipment
- desktop hardware
- desktop software
- network/WAN hardware
- network/LAN software
- software license
- professional development
- technical assistance staff
- contracted engineering and network support

Although a technology bond issue initially funded new technologies in the district, the district operating budget is the primary method of funding for continued technology support. The following outlines current and potential areas of funding.

- District Operating Budget
- Teacher Technology Initiative
- Technology Literacy Challenge Fund?
- Universal Service Fund?
- Other grants?

Quality Indicators for a Technology Funding Plan

- The budget planning process is driven by the district's vision for technology and the goals and expectations for student learning.

- The budget planning process takes into account the following factors:

  - initial costs for equipment, software and other necessary infrastructure costs.
  - funding for ongoing costs (for upgrades and maintenance of hardware).
  - planning for obsolescence and the need to replace equipment and acquire additional software.
  - substantial allocations for professional development to support ongoing training and staff development programs (i.e. 30% or more of the budget for technology is invested in training and staff development).
  - a permanent line item in the school's budget is established to support allocations for the purchase, maintenance and updating of the district's technology resources.

- The district takes full advantage of opportunities to stretch available financial resources to further advance the vision for technology (e.g. partnerships are created with local colleges or businesses; the school takes advantage of local cooperatives or consortia for purchasing technology; the potential advantages of lease/purchase agreements are investigated by the school, etc.).

- Opportunities to raise funds to expand the district's financial resources available for technology are fully explored (e.g. grants from state or federal agencies and private or corporate sponsors are pursued; the school encourages parents and community organizations to work together with the school to raise funds to support the technology plan; alumni organizations are contacted to request support; tuition fees from continuing education courses or seminars in technology sponsored by the school help to support the technology plan).

- The district takes advantage of the use of technology to manage and monitor resources.

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